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Claims

1. A probe assembly for use in the extraction of analytes from a sample, which probe includes an elongate cylinder portion which is arranged to rotate about its longitudinal axis, and having thereon one or more veins extending away from the cylinder portion.
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2. A probe assembly according to claim 1, which is coated with solid phase as a means for extracting materials.
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3. A probe assembly according to any preceding claim, wherein the probe is shaped to maximise the area of the solid phase on the probe that is in contact with the liquid phase, preferably the shape causes movement within the liquid such that there is a continuous exchange of liquid in contact with the solid phase.
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4. A probe assembly according to any preceding claim, wherein the extracting element is connected directly to a means of rotation, and/or the probe is arranged to be rotated in the sample.
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5. A probe assembly according to any preceding claim, wherein the probe is arranged to be an impellar in the sample.
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6. A probe assembly according to any preceding claim, wherein the probe includes a rotating device.
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7. A probe assembly according to any preceding claim, wherein the vein is in the form of paddles, shoulders, blades or the like, extending from the cylinder portion, preferably the vein is arranged to extend substantially around the cylinder portion so as to form a spiral thread.
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8. A probe assembly according to any preceding claim, wherein the elongate cylinder and/or the veins may be coated with a sorbent coating such as a polymethylsiloxane,
5 polyethylene glycol, silicone, polyimide, octadecylchlorosilane, polymethylvinyl chlorosilane, liquid crystal polyacrylates, grafted self organised monomolecular layers and inorganic coating materials.

10 9. A probe assembly according to any preceding claim, wherein the elongate cylinder is substantially hollow along its length.

15 10. A probe assembly according to claim 9, wherein the hollow elongate cylinder includes one or more apertures or perforations, the apertures or perforations being arranged to permit gas to flow through the walls of the cylinder,
or,
20 wherein the probe includes a sparger, such as a sintered glass frit to provide a diffuse stream of gas bubbles.

11. A probe assembly according to any preceding claim, wherein the probe further includes a sheath, preferably arranged to pierce or penetrate a septum.
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12. A probe assembly according to any preceding claim, which includes an elevation device arranged to move the elongate cylinder relative to the sheath.

30 13. A probe assembly according to any preceding claim, wherein an internal surface of the sheath and/or the elongate cylinder may be coated.

35 14. A probe assembly according to any preceding claim, wherein the probe includes a heating device.

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15. A probe assembly according to any preceding claim,
which includes a housing having at least one inlet and at
least one outlet arranged to permit entry and exit of gas
5 to the probe assembly.